#### Part 1 General

# Section Includes

## Vivid Casement complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, simulated divided lite, jamb extension, and standard or specified anchors, trim and attachments.

## Vivid Awning complete with hardware, glazing weather strip, insect screen, grilles-between-the-glass, simulated divided lite, jamb extension, and standard or specified anchors, trim and attachments.

## Vivid Casement Picture complete with glazing, weather strip, grilles-between-the-glass, simulated divided lite, jamb extension, and standard or specified anchors, trim and attachments.

# Construction Specification Institute (CSI) MasterFormat Numbers and Titles

1. Section 01 33 00 – Submittal Procedures: Shop Drawings, Product Data, and Samples
2. Section 01 62 00 – Product Options
3. Section 01 25 15 – Product Substitution Procedures
4. Section 01 65 00 – Product Delivery
5. Section 01 66 00 – Product Storage and Handling Requirements
6. Section 01 71 00 – Examination and Preparation
7. Section 01 73 00 - Execution
8. Section 01 74 00 – Cleaning and Waste Management
9. Section 01 75 00 – Starting and Adjusting
10. Section 01 76 00 – Protecting Installed Construction
11. Section 06 22 00 – Millwork: Wood trim other than furnished by door and frame manufacturer
12. Section 07 92 00 – Joint Sealants: Sill sealant and perimeter caulking
13. Section 08 71 00 – Door Hardware: Hardware other than furnished by door and frame manufacturer
14. Section 09 90 00 – Paints and Coatings: Paint and stain other than finish
	1. **References**
15. ASTM, International:

### E283: Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

### E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference

### E547: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls, by Cyclic Air Pressure Difference

### E2190: Standard Specification for Insulating Glass Unit Performance and Evaluation

### C1036: Standard Specification for Flat Glass

### E2112: Standard Practice for Installation of Exterior Windows, Doors, and Skylights

1. North American Fenestration Standard (NAFS) - American Architectural Manufacturer’s Association/Window and Door Manufacturer’s Association/Canadian Standards Association (AAMA/WDMA/CSA 101/I.S.2/A440):

### AAMA/WDMA/CSA 101/I.S.2/A440: NAFS: North American Fenestration, Standard/Specification for windows, doors, and skylights

1. Window and Door Manufacturers Association (WDMA)
2. WDMA I.S.4: Industry Standard for Water Repellent Preservative Treatment for Millwork
3. WDMA I.S.2: Hallmark Certification Program
4. Insulating Glass Certification Council (IGCC) and Fenestration Glazing Industry Alliance (FGIA) Glass Products Council (GPC)
5. Fenestration Glazing Industry Alliance (FGIA) – note: AAMA combined with IGMA and formed FGIA as of 08/01/2019
6. AAMA 2605: Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels
7. National Fenestration Rating Council (NFRC):

### NFRC 100: Procedure for Determining Fenestration Product U-factors

1. NFRC 200: Procedure for Determining Solar Heat Gain Coefficients at Normal Incidence
2. Window Covering

### WCMA A100.0: American National Standard for Safety of Window Covering Products

# System Description

## Air leakage shall not exceed the following when tested at 1.57 psf according to ASTM E283: 0.30 cfm per square foot of frame.

## No water penetration when tested at the following pressure according to ASTM E547: 7.52 psf

## Assembly shall with stand a positive or negative uniform static air pressure difference of psf without damage when tested according to ASTM E330.

# Submittals

## Shop Drawings: Submit shop drawings under provision of CSI MasterFormat Section 01 33 00.

## Product Data: Submit product data for certified options under provision of CSI MasterFormat Section 01 33 00. Product performance rating information may be provided via quote, performance rating summary (NFRC Data), or certified performance grade summary (WDMA Hallmark data).

## Samples:

### Submit corner section under provision of CSI MasterFormat Section 01 33 00.

### Specified performance and design requirements under provisions of CSI MasterFormat Section 01 33 00.

# Quality Assurance

## Requirements: Consult local code for IBC [International Building Code] and IRC [International Residential Code] adoption year and pertinent revisions for information on:

### Egress, emergency escape and rescue requirements.

### Basement window requirements.

### Windows fall prevention and/or window opening control device requirements.

# Delivery

## Comply with provisions of CSI MasterFormat Section 01 65 00.

## Deliver in original and protect from weather.

# Storage and Handling

## Prime and seal wood surfaces, including to be concealed by wall construction, if more than thirty (30) days will expire between delivery and installation.

## Store window units in an upright position in a clean and dry storage area above ground to protect from weather under provision of CSI MasterFormat Section 01660.

# Warranty

#### **The following limited warranty is subject to conditions and exclusions. There are certain conditions or applications over which Marvin has no control. Defect or problems as a result of such conditions or applications are not the responsibility of Marvin. For a more complete description of the Marvin limited warranty, refer to the complete and current warranty information that is available at http://www.marvin.com/support/warranty.**

## Clear insulating glass with Black Endur spacers is warranted against seal failure caused by manufacturing defects and resulting in visible obstruction through the glass for twenty (20) years from the original date of purchase. Glass is warranted against stress cracks caused by manufacturing defects from ten (10) years from the original date of purchase.

## Hardware and other non-glass components are warranted to be free from manufacturing defects for ten (10) years from the original date of purchase.

#### Part 2 Products

# Manufactured Units

## Description: Vivid Casement operating exterior swinging windows as manufactured by Marvin, Kansas City, Kansas.

## Description: Vivid Awning unit as manufactured by Marvin, Kansas City, Kansas.

## Description: Vivid Casement Picture as manufactured by Marvin, Kansas City, Kansas.

# Frame Description

## Interior: fiberglass reinforced composite material that is extruded.

## Exterior: Pultruded Fiberglass Ultrex®

## Frame thickness: 1 3/16” (29mm).

## Frame depth: 3 5/8” (92mm).

# Sash/Panel Description

## Interior: fiberglass reinforced composite.

## Exterior: Pultruded fiberglass Ultrex®

## Sash thickness: 1 19/32” (40mm) – dual pane; 2” (50mm) – Triple pane.

## Some sizes of dual pane product require 2” sash thickness. Refer to OMS.

# Glazing

## Select quality complying with ASTM C1036. Insulating glass SIGMA/IGCC certified to performance level CBA when tested in accordance with ASTM E2190.

## Glazing Method: 3/4” (19mm) insulating glass.

## Glass fill: Air with capillary tubes, Argon

## Glass Type: Low E1, E2, E3, E2/ERS, E3/ERS

## Glass Type Option: Obscure or California Fire Glass (Annealed exterior and tempered interior glazing configuration), Rain Glass, Glue Chip, Narrow Reed, Reed, Frost, Bronze Tint, Gray Tint, Green Tint.

## Glazing Seal: Silicone bead at interior and exterior.

## Glazing option: STC/OITC upgrade.

## Triple-pane glazing option: Units are manufactured with 1 3/16” (30mm) TG

## Low E2/E1, Low E3/E1, Low E2/E1/ERS, Low E3/E1/ERS

# Mulling

## Factory mulled or Prep for Field mulling

## Two Mull Systems

* + - 1. Standard Mull: includes mull pin, sealing tape, installation brackets, exterior and interior trim.
			2. ½” Mull Reinforcement (MRF): ½” space mull includes interlocking opposing mull pins, sealing weather strip, installation brackets, exterior and interior trim.

## **Standard Mull** (PG25)

### Vertical (Ribbon) Mulls:

### Maximum Factory Assembled (by Frame Size): not to exceed 144” (3658) x 96” (2438)

### Maximum Certified Continuous Span x Tributary Width (Frame Size): not to exceed 96” (2438) x 72” (1829)

### **Horizontal** (Stacked) Mulls:

### Maximum Factory Assembled (by Frame Size): not to exceed 96” (2438) x 96” (2438)

* 1. Maximum Certified Continuous Span x Tributary Width (Frame Size): not to exceed 96” (3658) x 72” (1829)

### Multi-Wide x Multi-High Mulls: Not available.

## **Mull Reinforcement** (PG40)

### Vertical (Ribbon) Mulls:

### Maximum Factory Assembled (by Frame Size): not to exceed 144” (3658) x 96” (2438)

### Maximum Certified Continuous Span x Tributary Width (Frame Size): not to exceed 96” (2438) x 72 1/2” (1841)

### Horizontal (Stacked) Mulls:

### Maximum Factory Assembled (by Frame Size): not to exceed 96” (2438) x 96” (2438)

* 1. Maximum Certified Continuous Span x Tributary Width (Frame Size): not to exceed 96” (3658) x 72 1/2” (1829)

## **Mull Reinforcement** (PG50)

### Vertical (Ribbon) Mulls:

### Maximum Factory Assembled (by Frame Size): not to exceed 112 1/2” (2857) x 96” (2438)

### Maximum Certified Continuous Span x Tributary Width (Frame Size): not to exceed 96” (2438) x 56 1/2” (1435)

### Horizontal (Stacked) Mulls:

### Maximum Factory Assembled (by Frame Size): not to exceed 96” (2438) x 96” (2438)

* 1. Maximum Certified Continuous Span x Tributary Width (Frame Size): not to exceed 96” (3658) x 56 1/2” (1435)

### Multi-Wide x Multi-High Mulls:

### Maximum Factory Assembled (by Frame Size): not to exceed 96” (2438) x 96” (2438)

* 1. Maximum Certified Continuous Span x Tributary Width (Frame Size): not to exceed 96” (3658) x 48 1/2” (1225)

# Finish

## Exterior:

### Pultruded Fiberglass.

### Acrylic Capstock.

### Meets AAMA 624-10 requirements.

### Color: Stone White, Pebble Gray, Bronze, Ebony.

## Interior:

### Fiberglass reinforced composite.

### Color: Stone White, Ebony.

### Acrylic based capstock

# Hardware

## Casement operating hardware:

### Locks: Multi-point sequential concealed locking system in the jamb opposite the hinge side for casement units. Lock handles are removable, non-handed, and are available in the same finishes as the handles. Standard tie bars, cams, and keepers – steel coated with E-Gard ™. The keeper features a roller to reduce average lock force and does not easily disengage with the cam even under severe loading. Stainless steel packages are available for coastal applications.

### Handles: Standard operating handle is a folding handle, zinc painted with the standard folding cover being molded plastic. Available colors: standard is Stone White, Matte Bronze, Matte Black, Satin Nickel

### Hinges: One at the sill to the bottom rail and one at the head jamb to the top rail. Hinges are steel coated with E-Gard™. The hinge track is stainless steel. Unit with a frame OM of greater than 20” use wash/egress hinge to allow the sash to slide across the frame opening, which causes the sash exterior to rotate towards the user for easy washability. Units with frame width less than or equal to 20” width use a standard 2 bar hinge, which will position the sash when fully open to 90degrees for the user to wash but does not include the feature of sliding the sash across the opening and rotating the exterior towards the user.

### Optional Factory Installed Window Opening Control Device (WOCD): The standard operation of the WOCD limits the operation of the sash to an opening of less than 4” (102mm). The sash arm detaches from the lock housing by a two-step function actuation to allow the normal operation of the unit. The WOCD re-engages when the unit is fully closed. WOCD is Coastal-compliant. Hardware meets ASTM F2090-21.

### Minimum frame width 20”

### Maximum frame width 41”

### The WOCD hardware is handed. The Lock Housing and Sash Arm are comprised of multiple stainless steel, injection molded components, and a single stainless-steel spring. The Lock Housing fits within a pocket of the jamb. The Sash Arm will fit within a pocket between the jamb/sill cover and the locking hardware.

## Awning hardware:

## Locks: Uses a multipoint sequential concealed locking system in both jambs. Lock handles are removable, non-handed, and are available in the same finishes as the handles. Standard tie bars and cams – steel coated with E-Gard™. Standard keepers – steel coated with E-Gard ™. The keeper features a roller to reduce average lock force and dies not easily disengage with the cam even under severe loading.

## Handles: Standard operating handle is a folding handle, zinc painted with the standard folding cover being molded plastic. Available colors: standard is Stone White, Matte Bronze, Matte Black, Satin Nickel.

## Hinges: Two hinges that connect the stiles of the sash to the jambs of the frame. Hinges are steel coated with E-Gard ™, and the hinge track is stainless steel. Hinges are designed to support up to a 210 lb sash.

# Weather Strip

## Weather stripped at frame and sash perimeter with bulb weather stripping.

### Color: Black.

# Jamb Extension

## Pine jamb extension: 4 9/16” (115), 6 9/16” (167mm) or 6 13/16” (173mm) factory-installed

### Finish: White, Designer Black

#  Insect Screen

## Factory Installed

### Screen mesh, charcoal fiberglass.

### Aluminum frame finish: White, Ebony.

### Roll formed aluminum frame default for frame heights equal to or less than 59 ½”

### Extruded aluminum frame defalt for frame heights to over 59 ½”

### Optional to upgrade roll formed aluminum to extruded aluminum frame.

###  Simulated Divided Lites (SDL)

## 7/8” (22mm) wide. Includes spacer bars between all panes.

### Exterior: Ultrex Stone White, Pebble Gray, Bronze, Ebony

### Interior: Fiberglass Reinforced Composite Stone White, Ebony

### Pattern:

### Rectangular 4” min DLO

### 9 lite Prairie cut with 4” DLO corners

### 6 lite top or bottom Prairie cut with 4” DLO corners

### 6 lite left of right Prairie cut with 4” DLO corners

* 1. Horizontal Trellis

### Cottage style up to 2H with specified DLO height (4” min)

* 1. Size limitations may apply to Prairie and Cottage lite cut availability

### Simulated Check rail option: 2” (50mm). Includes spacer bars between all panes.

#  Grilles-Between-the–Glass (GBG)

## Manufactured from aluminum in a 23/32” (18mm) wide contoured profile placed between the two panes of glass. On tri-pane configurations, GBG profile is in both air spaces.

### Colors:

### Interior: Stone White, Ebony.

### Exterior: Stone White, Pebble Gray, Bronze, Ebony.

### Pattern:

### Rectangular (3” DLO)

### 9 lite Prairie cut with 4” DLO corners

* 1. 6 lite top or bottom Prairie cut with 4” DLO corners
	2. 6 lite left or right Prairie cut with 4” DLO corners
	3. Cottage style up to 2H with specified DLO height (3” min)
	4. Size limitations may apply to Prairie and Cottage lite cut availability

#  Accessories and Trim

## Exterior Casing:

### Non-integral to the unit – fastened to the exterior wall with barb and kerf.

### 2” (51mm) Brick Mould Casing available as a full surround or with sill nosing.

### 3 1/2” (89mm) Flat Casing as a full surround or with sill nosing; also available with 1” (25mm) ranch style header overhang.

### Color: Stone White, Pebble Gray, Bronze, or Ebony. Color selected may optionally differ from the exterior color of frame.

## Installation Accessories:

### Factory-applied rigid nailing fin is standard.

### If specified on order, structural brackets for masonry applications are available in place of the rigid nailing fin.

### If specified on order, through-jamb screws are available in place of or in addition to the rigid nailing fin.

### Through-Jamb installation method is standard on Insert Application.

### All units include pre-drilled holes for through-jamb screws.

#### Part 3 Execution

# Examination

## Verification of Condition: Before installation, verify openings are plumb, square and of proper dimensions as required in CSI MasterFormat Section 01 71 00. Report frame defects or unsuitable conditions to the General contractor before proceeding.

## Acceptance of Condition: Beginning on installation confirms acceptance of existing conditions.

# Installation

## Comply with CSI MasterFormat Section 01 73 00.

## Assemble and install window/door unit(s) according to manufacturer’s instruction and reviewed shop drawing.

## Install sealant and related backing materials at perimeter of unit or assembly in accordance with CSI MasterFormat Section 07 92 00 Joint Sealants. Do not use expansive foam sealant.

## Install accessory items as required.

## Use finish nails to apply wood trim and mouldings.

# Field Quality Control

## Remove visible labels and adhesive residue according to manufacturer’s instruction.

## Unless otherwise specified, air leakage resistance tests shall be conducted at a uniform static pressure of 75 Pa (~1.57 psf). The maximum allowable rate of air leakage shall not exceed 2.3 L/sm2 (~0.45 cfm/ft2).

## Unless otherwise specified, water penetration resistance testing shall be conducted per AAMA 502 and ASTM E1105 at 2/3 of the fenestration products design pressure (DP) rating using “Procedure B” – cyclic static air pressure difference. Water penetration shall be defined in accordance with the test method(s) applied.

# Cleaning

## Remove visible labels and adhesive residue according to manufacturer’s instruction.

## Leave windows and glass in a clean condition. Final cleaning as required in CSI MasterFormat Section 01 74 00.

# Protecting Installed Construction

## Comply with CSI MasterFormat Section 07 76 00.

## Protecting windows from damage by chemicals, solvents, paint or other construction operations that may cause damage.

End of Section